

Benewah Variant Silt Loam 82-ID-0561 (82ID-009-6)

Classification: fine-loamy, mixed, frigid Ultic Palexeralfs.

General Site Characteristics

Location: Benewah County, Idaho; approx. 1 1/2 miles ENE of St. Maries; 2080 feet N & 975 feet W of SE corner of sec. 24, T. 46N., R. 2W.

Forest:

Area: Christmas Hills Recreation area along access road

Described By/Date: Soil Conservation Service personnel on April 14, 1982

Parent Rock/Material: loess

Habitat Type: western hemlock, western red cedar, Douglass fir, western white pine, western larch, LIBO, ROSA, COOC

Topography: rolling

Landform: terrace on a basalt plateau

Weathering:

Formation Name:

Slope: 5 percent

Aspect: southwest

Elevation: 3000 feet

Soil Depth:

Eff. Rooting Depth:

Litter Type:

Surface Rock:

Climate: frigid

Precipitation:

Erosion:

Infiltration:

Permeability: mod. slow

Storage:

Drainage: well

Air Temp:

Soil Temp at 20 inches:

Salt/Alkal:

Remarks: Water seeped into the pit from the sites at about 55 inches. Above that depth there were a few areas on the sides of the hole that had some excess moisture.

Pedon Description

- Oi 4-3 cm. Slightly decomposed needles, leaves, and twigs.
- O 3-1 cm. Volcanic ash - May 1980 eruption Mt. St. Helen's.
- Oe 1-0 cm. Well decomposed organic matter.

A 0-8 cm. Brown (10YR 5/3) silt loam, dark brown (10YR 3/3) moist; moderate fine and medium subangular blocky structure parting to weak very fine and fine granular structure; slightly hard, friable, slightly sticky and slightly plastic; moderately acid pH 5.6; many very fine and fine, common medium and coarse roots; many very fine, common fine, few medium tubular pores; no gravels by weight; clear wavy boundary.

Bw 8-23 cm. Pale brown (10YR 6/3) silt loam, brown to dark brown (10YR 4/3) moist; moderate fine and medium subangular blocky structure; hard, firm, slightly sticky and slightly plastic; strongly acid pH 5.3; common very fine and fine, few medium and coarse roots; many very fine, common fine, few medium tubular pores; few thin clay films lining pores; clear wavy boundary.

Bt1 23-51 cm. Pale brown (10YR 6/3) silt loam, brown to dark brown (10YR 4/3) moist; moderate medium and coarse subangular blocky structure; hard, firm, slightly sticky and slightly plastic; extremely acid pH 5.0; common very fine, few fine and medium roots; many very fine, common fine, few medium tubular pores; common thin clay films lining ped faces and pores, few moderately thick clay films lining pores; clear wavy boundary.

Bt2 51-91 cm. Pale brown (10YR 6/3) silt loam, brown to dark brown (10YR 4/3) moist; moderate very coarse and coarse angular blocky structure; hard, firm, slightly sticky and slightly plastic; very strongly acid pH 4.7; common very fine, few fine roots; many very fine and fine, few medium tubular pores; many thin clay films lining ped faces and pores; clear wavy boundary.

Bt3 91-152 cm. Pale brown (10YR 6/3) and brown (10YR 5/3) silt loam, brown to dark brown (10YR 4/3) and dark brown (10YR 3/3) moist; moderate very coarse and coarse angular blocky structure; hard, firm, sticky and plastic; very strongly acid pH 4.7; few very fine and fine roots; many very fine and fine, few medium tubular pores; common moderately thick clay films lining ped faces and pores, common moderately thick clay films ped faces and pores; clear wavy boundary.

Pedon: Benewah Variant Silt Loam B2-1D-0561 (B2ID-009-6)

Date: June 1984

Sample No.	Horizon	Depth	pH paste	EC#10 <sup>3</sup>	Z Water at Saturation	Available P	Sesquioxides				Spodic
							Di-Citrate Fe	Extract Al	Pyrophosphate Fe	Extract Al	
		cm		mhos/cm		ppm					
	Oi	4- 3	NS	NS	NS	NS					
	O1	3- 1	NS	NS	NS	NS					
	Oe	1- 0	NS	NS	NS	NS					
1	A	0- 8	5.6	0.30	52	1.8					
2	Bw	8- 23	5.3	0.20	38	1.8					
3	Bt1	23- 51	5.0	0.16	37	1.2					
4	Bt2	51- 91	4.7	0.10	42	1.2					
5	Bt3	91-152	4.7	0.09	41	3.0					

Sample No.	Exchangeable Ions				Ext. Acidity	CEC	Base Saturation	OM	OC	N	C:N	Soil Fraction	NaF pH
	Ca	Mg	Na	K									
	meq/100 gms						%		%		ratio		
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
1	8.9	1.3	0.7	0.4	9.7	14.5	54	2.71	1.58	0.092	17	1.00	8.8
2	6.1	0.5	0.6	0.5	8.5	11.2	48	0.90	0.52	0.045	12	1.00	8.7
3	6.7	0.8	0.6	0.5	8.7	11.6	50	0.64	0.37	0.039	10	1.00	8.6
4	5.8	1.8	0.4	0.3	10.1	16.5	42	0.43	0.25	0.034	7	1.00	8.4
5	5.2	1.0	0.1	0.3	11.5	17.0	37	0.50	0.29	0.037	8	1.00	8.4

Remarks: CEC's were leached with 10% acidified NaCl.  
CEC's and nitrogens were run by steam distillation.  
Extractable cations were run on the Jarrell Ash atomic absorption.  
NS - no sample

Analysis by: Debbie Eisinger

Pedon: Benewah Variant Silt Loam 82-ID-0561 (82ID-009-6)

Date: May 1984

Particle Size Distribution (mm)								Gravel & Stone			
Depth	VCS	CS	MS	FS	VFS	TS	TSi	TC	>2 mm	Textural	
	2-1.0	1-0.5	0.5-0.25	0.25-0.1	0.1-0.05	2-0.05	0.05-0.002	<0.002	wt.	vol.	Classes
cm	%								%		
4- 3	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS
3- 1	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS
1- 0	NS	NS	NS	NS	NS	NS	NS	NS	NS		NS
0- 8	0.66	1.12	0.92	2.20	5.10	10.00	73.93	16.06	none		Silt loam
8- 23	0.40	1.00	0.95	2.40	5.87	10.61	72.74	16.65	none		Silt loam
23- 51	0.42	0.91	0.88	2.53	5.92	10.68	70.61	18.71	none		Silt loam
51- 91	0.51	1.08	0.86	2.17	4.93	9.54	69.70	20.76	none		Silt loam
91-152	1.21	1.94	1.34	2.48	4.68	11.65	64.45	23.90	none		Silt loam
Silt Size Distribution (mm)						Water Content		Liquid	Plastic	Plastic	
Depth	CoSi	Msi	Fsi	Bulk Density		1/3	15	Limit	Limit	Index	
	0.05-0.02	0.02-0.005	0.005-0.002	Clod	Core	Bar	Bar				
cm	%			g/cc		%		%			
4- 3						NS	NS				
3- 1						NS	NS				
1- 0						NS	NS				
0- 8						37.8	25.4				
8- 23						29.1	19.8				
23- 51						28.9	19.1				
51- 91						31.7	20.7				
91-152						30.9	20.8				

Remarks: Samples were run by centrifuge method, 5% sodium hexametaphosphate added, sonified, and carbonates were not removed.  
NS - no sample

Analysis by: Anita L. Falen